EXHIBIT 6
160326

MINI-PROJECT DEFINITION REPORT

CEA 8250
WGK LANDFILL CLOSURE

W. G. KRUMMRICH PLANT

May 9, 1978

I. PROJECT SYNOPSIS

This project provides for closing and securing the WGK Landfill. It will be accomplished in accordance with the recommendations of the study completed on CEA 9278, WGK Landfill.

Detailed design was also completed as part of CEA 9278. Construction will be done under this CEA. It consists of hauling approximately 110,000 cu.yds. of suitable fill material to the site; grading this to obtain proper drainage and ditches; placing approximately 80,000 cu.yds. of select material to form a 2 foot impervious cap over the 25 acre area; and seeding to provide a grass cover to minimize erosion. Approximately 6,000 feet of chain link fence will be used to secure the area.

A construction bid package has been prepared and was issued to bidders on May 3, 1978 with bids scheduled by May 22, 1978. Minimal support time and material work will also be required. This is listed under IV Facilities Description below.

The project is estimated to require 23 weeks after approval for completion. Estimated final cost is $1.8M which will be funded as Retirement expense under a Plant Approval For Expenditure (PAFE).

II. PROJECT COMMITMENTS

A. PROJECT PURPOSES

The purpose of this project is to retire the WGK Landfill in accordance with the recommendations made by the consultant, d'Appolonia, of Pittsburgh, Pa.

B. LOCATION

The WGK Landfill covers 25 acres on the west end of the W. G. Krummrich Plant.

C. EXPECTED COST RANGE

The project will cost approximately $1.8M of Retirement Expense funds.

D. EXPECTED TIMING

Design is complete. A unit price/lump sum bid package for most of the work has been issued and bids will be received on May 22, 1978. It is estimated that the contract can be awarded on June 1, 1978 or as soon thereafter as the PAFE is approved. The preliminary schedule indicates that mechanical completion will be 23 weeks after approval. It is essential that construction start as early as possible to insure a good stand of grass before the winter of 1978 to minimize erosion.

Approximately $5,000 pre-approval funds will be requested to perform preliminary site preparation.

These funds are desirable to have the area ready so the lump sum contractor can move in expeditiously and will minimize schedule slippage.

III. PROJECT RISKS

A. ESTIMATE

1) Estimated Final Cost can be increased if the landfill settles appreciably during compaction of the fill.

2) Additional funds for repairing erosion will be required if a good stand of grass is not obtained before cold weather in the winter of 1978 - say November.

3) $50,000 in Undeveloped Design have been earmarked for provision of dike walls on the east and north of the tank farm located at the northwest corner of the landfill. This was a last minute request of the plant. These funds may not be sufficient when detailed design is finished. Detailed design of these walls would have delayed the project. If funds are not sufficient, a variance will be processed.

IV. FACILITIES DESCRIPTION

A. See Annex A, Landfill Closing Specifications, Drawings, and Quantity Take Offs, 5/1/78, CEA 9278.

B. Cross section of area to establish basic elevations before contractor moves in.

C. Raise 19 each 2" and 2 each 6" standpipes in landfill two feet above finished grade and cap.

D. Remove 50 feet of 6" buried and five hundred feet of surface laid fire water line in landfill and cap.

E. Undeveloped design $50,000 (estimate) to provide approximately 700 feet of 0 to 6 feet high dike wall on east and north of tank farm in northwest corner of landfill. This will now be required to prevent tank spills from flowing into the drainage ditches on the west of the landfill.

F. Reroute 12 poles in electrical utility line on east side of the landfill.

CEA 9278 Date: 5/1/78

LANDFILL CLOSING

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CIVIL

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SUMMARY OF WORK

CIVIL

1. GENERAL

1.1 Scope - The contractor shall furnish all labor, supervision, installation tools and equipment, supplies, materials and fill to accomplish earthwork, ditching, culverts, headwalls, seeding and mulching, and fencework described on the drawings or in these specifications.

2. WORK INCLUDED

2.1 Removal of existing fencing around four sides of the landfill to enable construction operations to proceed. Fence materials not suitable for reinstallation shall be placed in the lowest fill levels in the southern depression. The fence around the tank farm shall not be removed as part of this project.

2.2 Initial landfill removal limits are cross-hatched on drawing C-1; this area will be cut down as noted on the drawing. The cut material will be placed in the southern depression and promptly covered with one foot of common fill. The original area cut down to elevation will also be promptly covered with approximately one foot of compacted select fill to seal the area pending completion of a 2 foot cover throughout the area. All personnel shall avoid contact with materials exposed during this operation.

2.3 Construction of the drainage system will require drainage ditches, culverts, concrete headwalls, a precast manhole, and installation of riprap. Repair of existing surface features is required after culvert installation.

2.4 Compacted fills are under two categories, common fill and select fill.

2.4.1 Common fill may include selected granular materials in the southern depression after sample approval by Monsanto. Granular materials shall be restricted to the central area not closer than 100 ft. to the existing East, South & West sides, and not above elevation 417.0 ft.

2.4.2 Select fill sources shall be restricted to materials known to provide a permeability K value of no more than 1×10^{-7} cms/sec when tested by the falling head permeability test.

SUMMARY OF WORK - CIVIL

2.4.3 Monsanto has tested samples from 3 sources that are satisfactory with 95% of maximum compaction. Contractors shall be responsible for obtaining materials yielding equal or less than the above specified coefficient of permeability after in-place compaction. Pre-qualification testing for other borrow sources shall be the responsibility of the contractor and shall include approval by an Illinois Registered Professional Engineer before requesting approval by Monsanto.

2.4.4 The satisfactory clay samples were obtained from the following sources:

a. Near Collinsville, Illinois. Sample provided by H. H. Hall Co.
b. E. St. Louis Stone Co. Quarry, Dupo, Illinois.
c. Columbia Quarry, Dupo, Illinois.

2.4.5 Careful operation of smaller equipment is required around and under existing features whose operations must remain uninterrupted. Contractor shall repair any damages from his operations to the satisfaction of Monsanto.

2.5 Finish grading along with seeding, fertilizing, agricultural limestone and mulching is required. The maintenance of the soil surface, grass and ground coverings is required for 60 days after acceptance of the project.

2.6 Install chain link fencing around the landfill area as shown on the drawings and specifications. Include three 12' wide double-leaf gates to be located later.

3.0 WORK BY OTHERS

The following work will be performed by others under separate contracts. Approximate starting dates are shown.

1.	Relocation of power line poles along east and south sides.	May 1978
2.	Extension of standpipe casings.	May 1978
3.	Raising of manhole top on village sewer.	June 1978
4.	Removal of fire main supply pipe (West side near tank farm)	June 1978

CEA 9278

Spec: 2B-1
Date: 5/1/78
Rev: 0

EARTHWORK

1. GENERAL

1.1 Scope This specification covers excavation, filling, grading, compacting, and final surface preparation of the landfill closure operations at the sanitary landfill site of the W. G. Krummrich plant, Sauget, Illinois.

1.2 Related Work Specified Elsewhere

Seeding

1.3 Protection

1.3.1 Shoring When no provisions are made on the drawings for shoring or cofferdams, it is the intent of this specification to require that suitable protection be provided for all excavations where such may be necessary in order to control water conditions or to preclude sliding and caving of the walls of the excavation.

1.3.2 Drainage Drainage of the construction area shall be maintained in good order as required by Monsanto. Existing drains, culverts, ditches, and sewers shall be kept clean and operating during the construction operations.

Compaction Area The surface of unfinished fills shall be bladed smooth to a crown or grade at the conclusion of each day's work or before shutdown for any cause, to permit the runoff of water.

1.3.3 Protected Vegetation Trees, bushes, shrubs, or growth designated by Monsanto to remain, if any, shall be protected and saved from harm during the progress of the work.

1.4 Utility Lines All utility lines which cross the site or the work area shall be protected from damage to prevent interruption of service.

2. PRODUCTS

2.1 Materials

2.1.1 Borrow Off-site borrow pits, unless otherwise provided, will be furnished, operated, and maintained by the Contractor. Materials obtained from off-site borrow pits shall be classified as follows:

a. Strippings are those materials which are unapproved for use in any fill on the site.

2.1.1 Borrow (Cont.)

b. Common borrow shall consist of those materials conforming to the requirements for compacted fill (par. 3.4).

c. Select borrow shall consist of those materials conforming to the requirements for test controlled compacted fill (i.e., the uppermost two feet of fill cover over the entire landfill site, including slopes and drainage channels).

2.1.2 Fill All borrow materials imported to the site for use as fill, whether classified as Common borrow or Select borrow, shall be clean, cohesive earth materials free from excessive organic substances, rubbish, trash, spongy or frozen soil, large rocks or other objectionable materials which will prevent satisfactory compaction and consolidation. Granular materials, such as rock, cobbles, gravel, sand, or mixtures thereof, and highly erodable soil types, such as coarse silt or loess, shall be unsuitable as fill anywhere on the site except where such materials may be specified for special applications or unless approved by Monsanto. The source or sources of borrow to be used by the Contractor shall first be approved by Monsanto.

3. EXECUTION

3.1 Clearing and Grubbing Clearing shall consist of the cutting, removal and proper disposal of trees, bushes, poles, shrubs, rubbish, debris, and refuse resting upon and protruding above the existing ground surface in the fill area and in the borrow areas established by the Contractor. Grubbing shall consist of the removal and proper disposal of tree stumps and shrubs, if any, from within the limits of the landfill site and the borrow areas established by the Contractor

3.2 Excavation Materials removed from the landfill and other excavation areas shown on the Plans shall be disposed of in the depressed area at the south end of the landfill site. The excavated material shall be placed in lifts not exceeding 12 inches in thickness and this operation shall be performed before placing any borrow materials in the same fill area. Subgrade exposed by cuts shall be compacted before placement of subsequent materials or fill.

3.3 Borrow Pits

3.3.1 Excavation In borrow pits approved by Monsanto for obtaining Common borrow or Select borrow, the Contractor shall obtain all necessary permits for excavation and shall be responsible for performing the excavation work in accordance with all applicable laws and regulations governing same. The excavation shall be performed in such a manner that Common borrow and Select borrow, if obtainable from the same borrow pit, can be separately excavated and hauled to the landfill site.

3.3.2 Cleanup When all operations are completed in a borrow pit, the Contractor shall be responsible for the final appearance and condition of the borrow pit and shall, if necessary, shape the final surface for proper drainage.

3.4 Compacted Fill

3.4.1 Placing of Fill All fill placed on the site, whether designated as Common fill or Select fill, shall be placed and spread in successive, uniform, nearly-horizontal layers not exceeding 9 inches in uncompacacted thickness. Each layer of fill shall be compacted as described below before starting the next layer of fill. Movement of vehicles and equipment shall be distributed over the full width of the fill area to prevent tracking and aid in compaction.

3.4.2 Standard Compaction Each layer of fill shall be compacted by routing the earthwork equipment over the entire area of the fill or by rolling until uniformly compacted. In places inaccessible to such equipment, such as around structures or in drainage channels, the fill material shall be compacted with hand or mechanical tampers approved by Monsanto. This fill shall be moist, but not wet, during compaction, such that compaction does not lead to saturation or "pumping" of the fill under the weight of the hauling or compaction equipment.

3.4.3 Density Requirements for Select Fill The uppermost two feet of fill throughout the embankment area and the earth-fill lining in all drainage channels shall be Select borrow meeting the compacted density requirements. Each layer of Select borrow material shall be spread and compacted by a sufficient number of complete trips of the compaction equipment to obtain not less than 95 per cent of maximum laboratory dry density at a water content within ±2 percent of the optimum moisture content as determined by ASTM D-698.

FENCES AND GATES

1. GENERAL

1.1 Scope This specification covers material and installation requirements for the erection of chain-link fence. The extent of fence work is shown on the drawings.

1.2 Related Work Specified Elsewhere

Earthwork	Spec 2B-1

1.3 Submittals The Contractor shall provide the Engineer with complete specifications of items he proposes to furnish, including drawings, sketches, or pictures of typical construction details and any special fixtures, gates, hardware, and appurtenances.

2. PRODUCTS

2.1 General Manufacturer's standards items shall be furnished. When design conditions require special fittings they shall be submitted to the Engineer for approval.

2.2 Fence Fabric Chain link wire fabric shall be made of No. 9 AWG (0.148 inch) gage steel wire, woven in a 2 inch mesh. Top and bottom selvages shall be twisted and barbed. Provide one piece fabric width of 84 inches.

Galvanized coating shall conform to ASTM A392. Minimum coating shall be 2.0 ounces per square foot (Class 2).

2.3 Barbed Wire Galvanized steel wire shall consist of two strands of No. 12-1/2 9278 gage steel wire, 0.099 inch diameter with four point barbs on five inch centers. Wire shall conform to ASTM A121. The minimum weight of zinc coating shall be 0.80 ounces per square foot (Class 3).

2.4 Accessories All accessories shall be hot dip galvanized with a minumum coating of 2.0 ounces of zinc per square foot.

Fittings shall be first-grade malleable iron, which shall conform to ASTM A47. Fittings for post tops shall fit over the outside of posts. Wrought iron and pressed steel may be used as substitutes for malleable iron when approved by the Engineer. Cast iron is not acceptable.

Stretcher bars and bands shall be 1/4" by 3/4" steel bar weighing 0.65 pounds per lineal foot. Tension bands shall be preformed and the outside edges shall be beveled.

Fabric ties shall be preformed No. 9 gage (0.148 inch) wire or equivalent strip or clips made of the same material as the fabric.

Extension arms shall be made from good quality pressed steel or malleable iron and may be adjustable or fixed at an angle of 45 degrees. They shall be slotted for three strands of barbed wire and furnished with wire keepers to securely lock the barbed wire in place. Arms shall be furnished for all line, terminal, and corner posts.

2.5 Posts and Bracings All pipe used for posts and bracing shall be hot dip galvanized and shall conform to ASTM A120. "H" columns and "U" bars used for line parts shall be hot dip galvanized in accordance with ASTM A123 with a minimum coating of 2.0 ounces of zinc per square foot.

Pipe line posts shall be 2-3/8" OD steel pipe weighing 3.65 pounds per foot.

Alternative line post material shall conform to ASTM A36. Provide "H" columns weighing 4.1 pounds per lineal foot or 2-1/2" x 1-7/8" "U" bars weighing 4.2 pounds per lineal foot.

Terminal and corner posts shall be 2-7/8" OD steel pipe weighing 5.79 pounds per lineal foot.

Gate posts shall be steel pipe of size and weight as follows:

Width of Opening	OD	Weight Per Lineal Foot in Pounds
Swing Gates		
Single, to 6' Double, to 12'	2-7/8"	5.79
Single, over 6' to 13' Double, over 12' to 26'	4"	9.11
Single, over 13' to 18' Double, over 26' to 36'	6-5/8"	18.97
Single, over 18' to 32' Double, over 36' to 64'	8-5/8"	24.7
Sliding Gates		
To 30'	4"	9.11
Over 30'	6-5/8"	18.97

Top rail shall be 1-5/8" OD steel pipe, weighing 2.27 pounds per lineal foot. Rail shall be furnished with outside self-centering sleeve type couplings not less than seven inches in length.

Bracing shall be 1-5/8" OD steel pipe, weighing 2.27 pounds per lineal foot or 1-1/2" x 1-5/16" "H" beam weighing 2.27 pounds per lineal foot. Bracing shall be furnished with necessary fittings.

Truss rods shall be 3/8" OD solid steel rod weighing 0.40 pounds per lineal foot. Rods shall be furnished with turnbuckles.

2.6 Gates Gate frames, unless otherwise indicated on drawings, shall be constructed of 1-7/8" OD steel pipe. The frame may be joined by continuous welding or may be assembled with heavy malleable castings. If welded, frames shall be galvanized after fabrication. Ventilation holes shall be located on bottom side of members.

Gates shall be properly braced and trussed to prevent sagging, buckling, and weaving and shall be covered with the same type fabric as the fence.

Vertical end members of gate frame shall extend one foot above top horizontal member and carry three strands of barbed wire. Fixed and ratchet tension bands for fastening barbed wire shall be furnished.

All gates shall be furnished complete with necessary fittings and hardware. Latches are to be provided for the use of padlocks. Hinges shall permit the gate to swing 180 degrees. Plunger holes shall have top, bottom, and middle locking points with the middle point arranged for padlocking. The hasp shall be designed so that the padlock is accessible from either side of the gate.

2.7 Concrete Provide concrete consisting of portland cement (ASTM C150), aggregates (ASTM C33), and clean water. Mix materials, using at least 4 sacks of cement per cu yd, to obtain concrete with a minimum 28-day compressive strength of 2500 psi, 1" maximum size aggregate, maximum 3" slump, and 2% to 4% entrained air.

3. EXECUTION

3.1 Preparation and Clearing The finished fence shall be installed on a sufficiently uniform prepared grade so the maximum ground clearance shall not exceed 3 inches.

The Contractor shall remove high spots, loose debris, and vegetation within 5'-0" of the fence for proper installation of the fence.

3.2 Concrete Footings Waste material from excavation shall be disposed of as directed by the Engineer. Post holes shall be thoroughly cleared of loose material.

All posts shall be set in a concrete base, which shall be six inches deeper than the bottom end of the posts. Tops of concrete

bases shall be finished with a one inch crown from post to edge of base which shall be 3" above finished grade. Total depth of the concrete shall be 3'-6" from crown to bottom with 3'-0" post embedment. The diameter of the foundation shall be a minimum of nine inches, except for the gate posts, for which the minimum diameter shall be three times the outside diameter of the post. Concrete shall be thoroughly compacted by the hand-tamping method with a rod of sufficient length to reach the bottom of the post hole. Concrete shall be allowed to cure a minimum of 72 hours before any further work is done on the posts. Care shall be taken to insure proper alignment and plumb installation.

Provide concrete piers for gate center rests, hold-on keepers, and any other appurtenances at ground level.

3.3 Posts Post tops shall be of the design required to accomodate the top rail and barbed wire extension arms. In addition to manufacturer's standard connections, barbed wire extension arms shall be securely anchored to posts by use of through bolts or other approved method and turned outward.

Line and brace posts shall be set not more than 10 feet on centers in the line of the fence. Terminal, corner, and gate posts shall be set at locations shown on the drawings.

3.4 Rails and Bracings Top rail shall be installed prior to installation of chain-link fabric. A manufacturer's standard expansion-contraction coupler shall be provided every 100 feet or fraction thereof. Straight runs between braced posts shall not exceed 500 feet. End clamps shall be used for attaching top rail and braces to brace, terminal, and gate posts. Corner clamps shall be used for attaching top rail and braces at corner posts.

Horizontal braces and adjustable diagonal bracing extending to the first adjacent line post shall be provided at each terminal, corner, brace, and gate post.

3.5 Fabric and Barbed Wire Fabric shall be pulled taut and secured to the top rail close to both sides of each post and at intervals of not more than 24 inches on centers and to the intermediate posts at intervals of not more than 14 inches on centers with wire ties. Fabric shall be attached to terminal, corner, brace, and gate posts with stretcher bars and stretcher-bar bands. Bands shall be equally spaced on the stretcher bar and not over 14 inches on centers. Where rolls of fabric are joined they shall be properly tensioned by double block pullers, ends of fabric matched, and joined by a spiral connecting link.

Barbed wire shall be installed on extension arms above the fence posts. The method of securing wire shall be positive. Each strand shall be pulled taut and securely fastened to the extention arms in the manner recommended by the manufacturer.

Wire shall be attached to terminal, corner, brace, and gate posts with wire stretching bands. Barbed wire on gate tops shall be furnished with the gates.

3.6 Gates Gate leaves more than eight feet wide shall have intermediate members and diagonal truss rods or tubular members as necessary to provide rigid construction. Gates less than eight feet wide shall have truss rods or intermediate braces.

Fabric shall be attached to gate frame ends by use of bolt hooks, stretcher-bar bands, and stretcher bars or by other methods standard with the manufacturer. Welding the fabric to the gate frame will not be permitted. The top and bottom of the fabric shall be attached with wire ties at intervals not exceeding 14 inches on centers.

Padlocks for gate openings will be provided by the plant. Provide matching chains securely attached to the gates or gate posts.

3.7 Fencing Across Ditches Where project drainage ditches are crossed by the fence, install a personnel barrier below the bottom of the fence fabric. Install "corner post" pipe posts spaced to have not over 6" openings between the posts. Provide a continuous concrete bottom sill in place of individual post footings. The bottom sill shall be 10" min. width, 3'-5" in depth with 3'-0" post embedment. Top of concrete will be 1" below the ditch grade.

END OF SPEC 2J-1

SEEDING

1. SCOPE

The scope of work covered by this chapter includes all seeding and fertilizing to be performed by the Contractor after completion of final grading of the site, including all slopes and drainage channels to the lines, grades, and cross sections shown on the Plans. Seeding shall include application of fertilizer and, if necessary, agricultural ground limestone, preparation of the seedbed, seeding with the designated mixtures, and application of erosion control fabric on the seeded areas, all as specified below.

1.1 Fertilizer and Agricultural Ground Limestone Immediately prior to the seedbed preparation, fertilizer nutrients and, if necessary, agricultural ground limestone shall be uniformly spread at the specified rate over the areas designated. The type of fertilizer to be applied and the necessity for application of agricultural ground limestone will be specified by Monsanto based on soil tests performed on samples of the upper six inches of soil placed on the landfill site.

1.2 Seedbed Preparation The initial step of seedbed preparation shall consist of removal of all stones, boulders, debris, and similar material larger than three inches in diameter. The area to be seeded shall then be worked to a minimum depth of six inches with a disc, harrow, or other equipment approved by Monsanto, reducing all soil particles to a size not larger than two inches in the largest dimension. The bottom and sides of all drainage channels or other areas inaccessible to towed equipment shall be hand raked in a direction perpendicular to the axis of the channel. All prepared seedbed surfaces shall be relatively free from all weeds, clods, stones, roots, sticks, rivulets, gullies, crusting, and caking. No seeding shall be accomplished until the seedbed has been approved by Monsanto and the seedbed is in such a condition as to provide adequate soil-seed contact subsequent to seeding, to minimize erosion and to optimize available water within the root zone.

1.3 Seeding Methods No seeds shall be sown during high winds or where the ground is not in a proper condition for seeding, nor shall any seed be sown until the purity test has been completed for the seeds to be used and shows that the seed meets the noxious weed seed requirements. The Contractor's equipment and method of seeding shall be subject to approval by Monsanto. Prior to starting work, seeders shall be calibrated and adjusted to sow seeds at the proper seeding rate. Equipment shall be operated in a manner to assure complete coverage of the entire area to be seeded. Monsanto shall be notified at least 48 hours prior to beginning the seeding operations. When seed or fertilizer is applied with an hydraulic seeder, the rate of application shall not be less than 1000 gallons of slurry per acre. This slurry shall contain the proper quantity of seed or fertilizer specified per acre. When using an hydraulic seeder, the fertilizer nutrients and seed may be applied in one operation after proper seed bed preparation.

Within 12 hours of sowing, all seeded areas, including slopes 3:1 or flatter, shall be rolled parallel to the contours with an approved type roller or cultipacker to compact the seedbed and place the seed in contact with the soil. Slopes steeper than 3:1, if any, need not be rolled. Rolling of the seedbed will not be required in drainage channels where jute mat excelsior blanket or equivalent erosion control fabric is placed as specified on the Plans. On areas seeded with an hydraulic seeder, rolling shall not be required.

The optimum depth for seed placement shall be 1/4 inch.

All legumes (clover, vetch, lespedeza, and alfalfa) shall be inoculated with the proper bacteria in the amount and manner recommended by the manufacturer of the inoculant before sowing. The inoculant shall be furnished by the Contractor and shall be subject to the approval of Monsanto. The seed shall be sown as soon as possible after inoculation and seeds that have been standing more than 24 hours after inoculation shall be reinoculated before sowing. If legumes are applied by hydroseeding, three times the normal amount of inoculant shall be used. The Contractor shall furnish the inoculant and the cost of furnishing same shall be included in the Contract price.

1.4 Seeding Mixtures Seeding mixtures will be determined on the basis of the analysis of soil samples taken by Monsanto and shall consist of one or more of the seed types listed below. Seeding mixtures shall be designated by Monsanto based on the season of the year when seeding is performed.

SEEDING MIXTURES

CLASS	SEEDS	LBS/ACRE	SEASON TO USE
1	Ky. Bluegrass Perennial Ryegrass Redtop or Creeping Red Fescue Ladino or White Dutch Clover	50 20 10 5	Spring
	Ky. Bluegrass Perennial Ryegrass Redtop or Creeping Red Fescue Oats, Spring	50 20 10 48	Fall
	Ky. Bluegrass Redtop or Creeping Red Fescue	70 20	Spring or Fall

1.5 Erosion Control Fabric As shown on the Plans, erosion control fabric, such as jute mat, excelsior blanket, or equivalent fabric specifically manufactured for erosion control of seeded areas shall be placed in the bottom of drainage channels to prevent erosion and protect the seedbed during germination and initial growth. The fabric shall be placed within 24 hours after seeding operations have been completed on the areas specified. Prior to placing the mat or blanket, the areas to be covered shall be relatively free of all rocks or clods over 1-1/2 inches in diameter and all sticks or other foreign material which will prevent the close contact of the mat or blanket with the seed bed. Pinning or attachment shall follow the fabric manufacturer's recommendations.

1.6 Mulching Seeded Areas Within 24 hours from the time seeding, or planting of seedling trees, shrubs or vines has been performed, the seeded or planted area shall be given a covering of straw mulch. On slopes steeper than 3:1 mulch shall be applied the same day as seeded or planted. Mulch shall be applied uniformly.

1.6.1 Hand or Machine Application of Mulch. The mulch shall be loose enough to permit air to circulate but compact enough to reduce erosion. If baled mulch material is used, care shall be taken that the material is in a loosened condition and contains no lumps or knots of compacted material.

1.6.2 Straw shall be clean, seed free, salt hay or threshed straw of wheat, rye, oats or barley.

1.7 Water newly planted areas and maintain moisture if rains are not adequate until new grass is established.

1.8 Maintenance Instructions Submit 2 copies of typewritten procedures to be established by Monsanto for the maintenance of seeding and sodding work for one full year. Submit prior to expiration of Contractor's maintenance period (s) required under the contract.

1.9 Maintenance Begin maintenance of grass immediately after each area is planted and continue for:

Not less than 60 days. If seeded in fall and not given full 60 days of maintenance or if not acceptable at that time, continue maintenance the following spring until acceptable lawn is established.

Maintain grass by watering, fertilizing, mowing, trimming, and other operations such as rolling, regrading, and replanting as required to establish a smooth, acceptable grass stand free of eroded or bare areas.

1.9 Maintenance Cont.

Remulch with new mulch in areas where mulch has been disturbed by wind or maintenance operations. Anchor as required to prevent displacement.

Seed bare areas using same materials originally specified.

Provide and maintain temporary piping, hoses, and watering equipment to convey water from water sources and to keep grass areas uniformly moist as required for proper growth.

Mow grass as soon as there is enough top growth to cut off 1" with mower set at the specified height. Repeat mowing as required to prevent grass blades from bending over and becoming matted. Do not mow when grass is wet.

Mow grass to 1-1/2" - 2" height. Do not mow lower than 1-1/2".

1.10 Acceptance of Lawns Seeded grass areas will be acceptable provided all requirements, including maintenance, have been complied with, and a healthy, uniform, close stand of the specified grass is established, free of weeds, bare spots, and major surface irregularities.

ESTIMATED QUANTITIES
W. G. KRUMMRICH PLANT LANDFILL
MONSANTO COMPANY

ITEM NO.	ITEM	ESTIMATED QUANTITY	UNIT
1	Select Fill	81,000	c.y.
2	Common Fill	110,500	c.y.
3	Initial Landfill Excavation	8,000	c.y.
4	Ditch Excavation	11,500	c.y.
5	Culvert (Class I RCP)	300	L.F.
6	Culvert (Class III RCP)	100	L.F.
7	Headwall Concrete	8	c.y.
8	Erosion Control Fabric	58,000	sq.ft.
9	Filter Cloth	6,500	sq.ft.
10	Riprap	340	c.y.
11	Precast Manhole and Cover	1	each
12	Chain Link Fence (Removal)	5,932	L.F.
13	Chain Link Fence (Installation)	5,172	L.F.
14	Seed	2,510	lbs.
15	Fertilizer	10	Tons
16	Limestone	50	Tons
17	Application of Seed	25.1	Acres
18	Application of Fertilizer and Limestone	25.1	Acres